



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D5155-043
Job Sheet 172047



Part No: D5155-043

Job Qty: 2 ea

Part Name: Co-Pilot Collective Head Assembly (212/412)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/12/18

Job Tracking No:

Due Date: 2/23/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV B IPP REV:A 15.05.07 NEW ISSUE DD VERF:JLM IPP REV:B 15.07.02 AS PER DWG REV.B DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	2 Ea		2/22/18	0.00	0.00	Start Up Large Fab-3		<i>ZAC</i>
110	Large Fab	2 pcs		2/22/18	0.00	0.81	Large Fab 2		<i>ZAC</i>
120	QC	2 pcs		2/22/18	0.00	0.00	QC9		<i>PD 18-02-16</i>
130	QC	2 pcs		2/22/18	0.00	0.00	QC5		<i>PD 18-02-16</i>
140	Outsource	2 pcs		2/22/18			ATG001-VC <i>Outsource 4</i>		<i>AT 18-02-18</i>
150	Packaging	2 pcs		2/22/18	0.00	0.00	Packaging2		<i>AT 18-02-18</i>
160	QC	2 pcs		2/22/18	0.00	0.00	QC6		<i>38</i>
170	Small Fab	2 pcs		2/23/18	0.00	2.08	Small Fab-8		<i>FF</i>
180	QC	2 pcs		2/23/18	0.00	0.00	QC5		<i>21</i>
190	Packaging	2 pcs		2/23/18	0.00	0.00	Packaging3-2 <i>JT 373</i>		<i>21</i>
200	QC21-SA	2 Ea		2/23/18	0.00	0.00	QC21		<i>6</i>

MAR 2 2018

MAR 2 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D4410-7	Conduit	2 Ea (1 ea)	90-Start up Operation	
D5155-3	Co-Pilot Collective Head (212)	2 Ea (1 ea)	90-Start up Operation	
90296A108	Heli-Coil Insert	22 Ea (11 ea)	170-Small Fab	<i>FM 136540</i>
D5155-11	Co-Pilot Collective Head (212)	2 Ea (1 ea)	170-Small Fab	<i>F 164348</i>
D5156-11	Back Plate	2 Ea (1 ea)	170-Small Fab	<i>F 145949</i>
MS16562-223	Spring Pin	4 Ea (2 ea)	170-Small Fab	<i>FM 134841</i>
MS24693-24B	Screw	14 pcs (7 ea)	170-Small Fab	<i>FM 137676-2</i>

601519

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D4410-7 <i>WADL</i>	2	5	0
	D5155-3	2	4	0
170-Small Fab	90296A108	22	49	0
	D5155-11	2	4	0
	D5156-11	2	20	0
	MS16562-223	4	25	0
	MS24693-24B	14	52	0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Part Specifications

Specifications could not be found.

Plex 2/12/18 11:35 AM Dart.lajeunesse.marie

DART
AEROSPACE
S041766

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com



Co – Pilot Collective Head Assembly (212/412)

PART NO: D5155 – 043

Original Serial #: S041766

Revision:

Operation:

Change No:

Start up Operation 02/13/18

Job No: 172047

DQA: _____ Date: _____



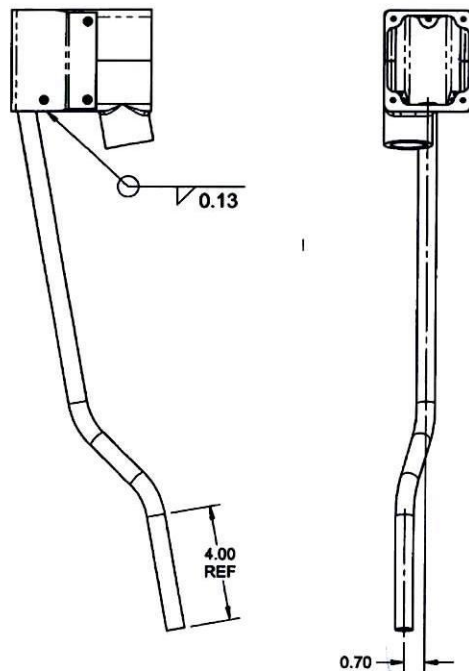
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause		FAULT CATEGORY																							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
Misidentified ☐	Past Due ☐																								

ITEM	QTY	P/N	DESCRIPTION
1	X	D5155-043	CO-PILOT COLLECTIVE HEAD ASSEMBLY (212)
2	1	D4410-7	CONDUIT
3	1	D5155-3	CO-PILOT COLLECTIVE HEAD (212)
4	1	D5155-11	CO-PILOT COLLECTIVE HEAD (212)
5	1	D5156-11	BACK PLATE
6	11	90296A108	HELL-COIL INSERT (6-32 X 0.276)
7	2	MS16562-223	SLOTTED SPRING PIN
8	7	MS24693-24B	SCREW, CSK 100°

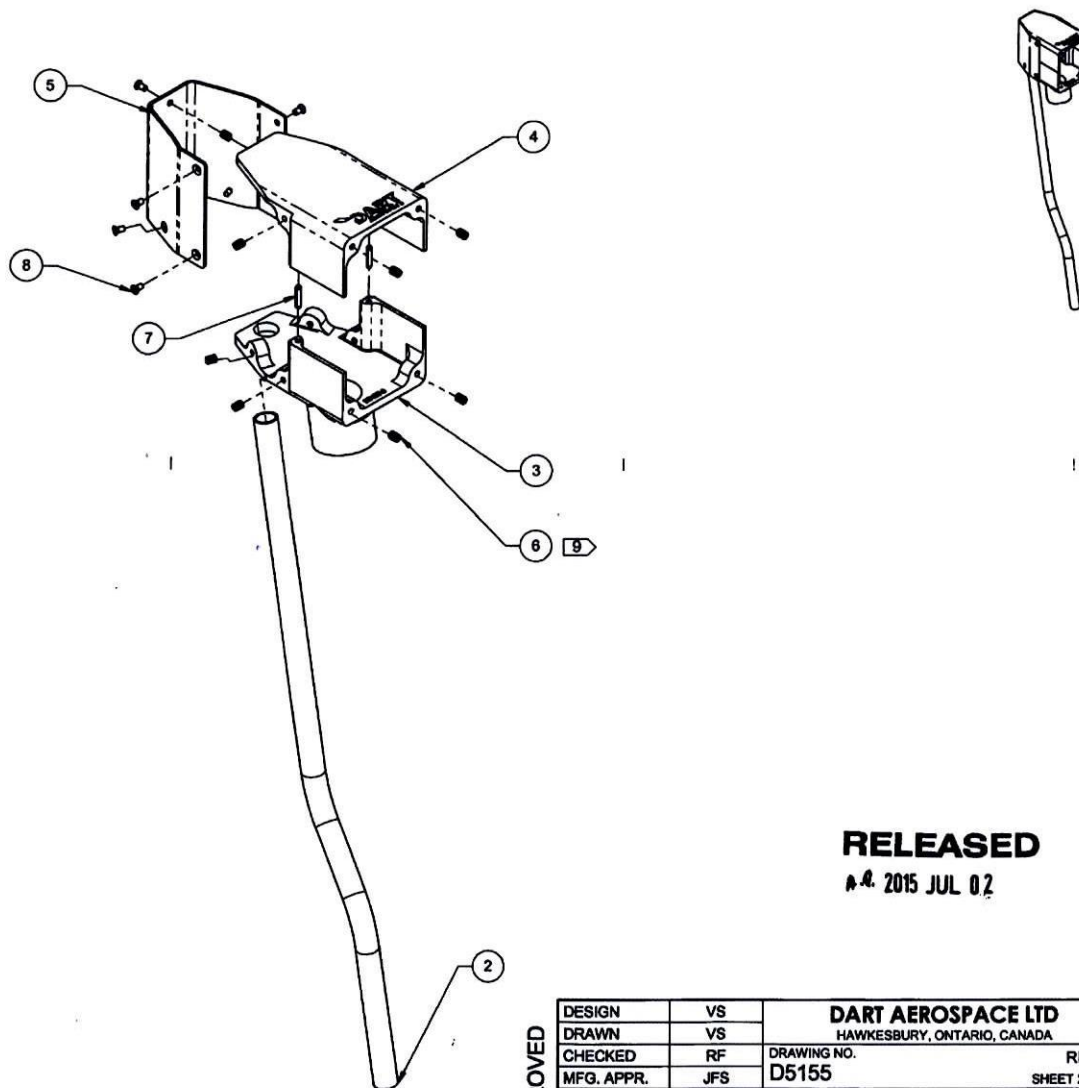


D5155-043 WELDING DETAIL

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER WELDING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 1.20 lbs
- 8) WELD PER DART QSI 004
- 9) INSTALL AFTER ANODIZING

D5155-043 CO-PILOT COLLECTIVE HEAD ASSY (212)



RELEASED

A. 2015 JUL 02

DESIGN	VS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	JFS	D5155	SHEET 2 OF 14
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CO-PILOT COLLECTIVE HEAD	NTS
DATE	15.05.21	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039091

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalonde, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO039091

PO Date: 2/22/18

Due Date: 3/1/18

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

E-MAILED
FEB 28 2018

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	167749	D4822-1	Upper Deflector, LH HARD ANODIZE IAW MIL-A-8625 TYPE 3 COLOUR BLACK PRIME AS PER DWG D4821 REV. B	Firmed	3/1/18	10 pcs	0 pcs	10 pcs	\$31.45/pcs	\$314.50
2	169823	D4822-2	Upper Right Deflector Hard Anodize, Color Black and Prime as Per Dwg D4822 Rev. C	Firmed	3/1/18	5 pcs	0 pcs	5 pcs	\$31.45/pcs	\$157.25
3	172047	D5155-043	Co-Pilot Collective Head Assembly (212/412) Anodize Black as per Dwg D5155 Rev. B	Firmed	3/1/18	2 pcs	0 pcs	2 pcs	\$6.25/pcs	\$12.50
4	170452	646.3110	Channel Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3100	Firmed	3/1/18	12 pcs	0 pcs	12 pcs	\$12.10/pcs	\$145.20
5	171985	646.3313	Upper Guide Issue P/O to ATG : Hard Anodize Color Black and Prime as per DWG 646.3300	Firmed	3/1/18	20 pcs	0 pcs	20 pcs	\$14.55/pcs	\$291.00
6	168292	647.1712	Gusset Issue P/O to ATG : Hard Anodize, Color Black and Prime as per Dwg 647.1700 Rev. E	Firmed	3/1/18	4 pcs	0 pcs	4 pcs	\$14.10/pcs	\$56.40
	171188			Firmed	3/1/18	16 pcs	0 pcs	16 pcs	\$14.10/pcs	\$225.60
Sub Total:						20	0	20		\$282.00
7	169389-A	647.7821	Eye Bolt Fitting LH Issue P/O to ATG : 1- Black	Firmed	3/1/18	4 pcs	0 pcs	4 pcs	\$10.50/pcs	\$42.00

DAS
38
9-88



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914681

Date: 28-Feb-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Diane Baker
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
4 ea	Part: RBW6405G02131-3G-3 Bell Anodize per MIL-A-8625F, Type II, Class 1, Clear .0004-.0010" (.4 - 1 mils), Water Seal Job: 22588		Rev: D PO: PO039091 Line: 12
6 ea	Part: RBT18538-3 Right Seat Brace Clear Anodize per MIL-A-8625F, Type II, Class 1, Clear .0004-.0010" (.4 - 1 mils), Water Sealant Job: 22589		Rev: 2A PO: PO039091 Line: 13
6 ea	Part: RBT18538-1 Left Seat Brace Clear Anodize per MIL-A-8625F, Type II, Class 1, Clear .0004-.0010" (.4 - 1 mils), Water Sealant Job: 22590		Rev: 2A PO: PO039091 Line: 14
4 ea	Part: RB T101266-101 Blade Bolt Bullet Clear Anodize per MIL-A-8625F, Type II, Class 1, Clear .0004-.0010" (.4 - 1 mils), Water Sealant Job: 22592		Rev: 2 PO: PO039091 Line: 16
2 ea	Part: D5155-043 Co-Pilot Collective Head Assem Anodize per MIL-A-8625F, Type II, Class 2, Black, .0004-.0010" (.4 - 1 mils). Job: 22579		Rev: B PO: PO039091 Line: 3
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: 28/2/18 Made in Canada.			



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914681

Date: 28-Feb-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Diane Baker
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms

Ship Via

OUR TRUCK

Quantity

Description

Certified Signature: *Mr. Richard*

Receiver Signature: _____

A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited.

Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.

Made in Canada.